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Research, designed to study the effectiveness of programed human relations training in improving the human relations skills of preservice teachers and to study the effects of dogmatisim on the learning of human relations skills, is presented.

Two hundred and thirty preservice teachers constituted the subjects. Matched study groups were tested both before and after instruction to assess human relations skills.

It was concluded that the Human Development Institute (HDI) General Relationship Improvement Program can teach human relations skills to preservice teachers, especially when instructional sessions are spaced one week apart, and that highly dogmatic subjects with relatively closed belief-disbelief systems make less gain in human relations skills than others, particularly in the area of empathic understanding.

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The Dogmatism Factor in Human Relations Training of Pre-service Teachers

John B. Hough

The Ohio State University

U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
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Paper presented at the annual meeting of the American Educational Research Association, Chicago, Illinois, February, 1965.

The research reported in this paper had two purposes: (1) to study the effectiveness of programed human relations training in improving the human relations skills of pre-service teachers (2) to study the effects of dogmatism on the learning of human relations skills.

The work of Carl Rogers in the field of client centered therapy has demonstrated that significant changes in client behavior occur when the therapist, working in the context of a helping relationship, is able to communicate to the client the conditions of empathic understanding, congruence and unconditional positive regard. (1) In extending his ideas to the role of the teacher, Rogers has asserted that significant learning is more likely to occur in classrooms when, in the course of their teaching, teachers are able to communicate these same conditions to their students. In further expanding on this idea Rogers says the following:

> Another implication for the teacher is that significant learning may take place if the teacher can accept the student as he is, and can understand the feelings he possesses...The teacher who can warmly accept, who can provide an unconditional positive regard, and who can empathize with the feelings of fear, anticipation and discouragement which are involved in meeting new material, will have done a great deal toward setting the conditions for learning. (2)

If Rogers' assertion is correct, namely that significant learning will more often occur in the classes of teachers who are able to communicate to their students the conditions of empathy, congruence and unconditional positive regard, then such an idea has significant implications for teacher training. Bills (3) has reported that students of more open teachers (as measured by The Teacher Problems Q-Sort) have more positive attitudes toward themselves and others than pupils taught by less open teachers. Emmerling (4) has found that the ability of teachers to show their students the conditions of empathy, congruence and unconditional positive regard is related to the openness or closedness of the teacher (as measured by Bills' Teacher Problem Q-sort). These and other studies

seem to give support to Rogers' point of view and to establish a relationship between openness and teacher behavior as perceived by students.

The question of whether pre-service teachers can be taught to become more empathic, congruent and unconditional in their regard for others represents another area of study, as does the relationship of a person's openness or closedness to the learning of such human relations skills. It was this area of study that was investigated by this research. It was, therefore, the purpose of this study (1) to determine if programed human relations training could effect changes in the human relations skill of pre-service teachers and (2) to determine if such change was related to the openness or closedness of the learner.

Three primary hypothesis were stated:

1. Subjects experiencing programed human relations training will evidence growth in human relations skills.

2. Subjects experiencing programed human relations training will evidence growth in human relations skills which exceeds the growth evidenced by subjects who experience ten hours of dyadic discussions of educational case studies.

3. Subjects with a relatively closed belief-disbelief system will evidence less growth in human relations skill than subjects with a relatively more open belief-disbelief system.

Method

Materials

The programed human relations material used in this study was the General Relationship Improvement Program developed by the Human Development Institute (HDI). The program is designed to teach people human relations skills in a context of personal meaning. Specifically, it is the purpose of this program to teach people to be open in their relationships with others and to show empathic understanding, congruence and unconditionality of regard. This is accomplished in part through developing a greater awareness and acceptance of self.

The HDI General Relationship Program is a unique type of dyadic programed instruction in which two people go through the program together, reacting to the program and interacting with each other. This human interaction is accomplished through short role plays and discussions of experiences provided by the program. The program is divided into ten instructional sessions designed to be taken several days apart.

Tests and Measures

The instrument used in this study to assess human relations skill was the Relationship Inventory developed by G. T. Barrett-Lennard. A discussion of the procedures by which this instrument was validated is presented in Dimensions of Perceived Therapist Response Related to Therapeutic Change. (5) The form of the instrument used in this study consisted of ninety items responded to on a six point continuum from strong agreement (+3) to strong disagreement (-3). These ninety items are made up of five sub-tests of eighteen items each representing the five aspects of human relations measured by the inventory, i.e., (1) positive level of regard, (2) empathy, (3) congruence, (4) unconditionality of regard, (5) willingness to be known. The construct of this test closely parallels the conditions Rogers' suggests as those that need to be shown by teachers if optimum student learning is to occur. Items are stated both negatively (e.g., "he disapproves of me") and positively (e.g., "he respects me"). The items measuring the five constructs appear in a repeating pattern throughout the inventory with negatively and positively stated items randomly distributed. By applying a scoring key, sub-scores for each of the five constructs may be obtained. A particular person's score on the test represents the rating of that person as perceived by another (i.e., the person's partner in this study).

The instrument used in this study to measure student openness or closedness was the Dogmatism Scale, developed by Milton Rokeach. A discussion of the validating procedures for this instrument may be found is The Open and Closed Mind. (6) The

form of the instrument used in this study consisted of the forty items of Form E embedded in twenty neutral items. The items are responded to on a six point continuum from strong agreement (+3) to strong disagreement (-3). A high score on this test represents a relatively closed belief-disbelief system, i.e., the dogmatic person.

Rokeach has suggested that a person's belief-disbelief system may function in such a way as to distort or screen out potentially available stimuli. He hypothesizes a relationship between openness of a person's belief-disbelief system and the person's ability to be aware of and accurately perceive stimuli.

If the assumptions concerning the belief-disbelief system are accurate, then one would assume that some people, those with more closed systems (more dogmatic people) would be less aware of the feelings of others, and would profit less from human relations training than people whose systems are relatively more open.

Both The Relationship Inventory and The Dogmatism Scale were taken anonymously by having students record experimental numbers on their answer sheets rather than sign their names.

Procedures

Two hundred and thirty pre-service teachers [7] in ten sections of an introductory course in the teaching-learning process constituted the subjects for this study. Within each of the ten classes students were randomly paired making a total of one hundred and fifteen pairs (dyads). Each of these students was pre-tested on The Relationship Inventory the day prior to the initiation of the experimental or control treatment used in this class. This was accomplished by having each pair of students discuss a series of "What Would You Do" classroom control problems for one hour. Immediately following the discussion, each student filled out The Relationship Inventory on his partner. Upon completion of the experimental or control treatment (three to eight weeks later, depending on the group) the same pairs again discussed the "What Would You Do" situations and each

student again rated his partner by using The Relationship Inventory.

All students were pre-tested on the Dogmatism Scale during the first week of the quarter.

Of the ten classes, seven served as experimental groups and used the HDI program. Three classes served as control groups. The experimental and control treatments are summarized below:

Groups C-1 and C-2	No instruction in human relations training was given these groups. Pre and post testing on The Relationship Inventory was done five weeks apart. Members of pairs had no dyadic relationship with the partner they rated excepting for the two hours spent in discussing the "What Would You Do" situations.
Group C-3	No instruction in human relations training was given this group. Pre and post testing on The Relationship Inventory was done eight weeks apart. During these eight weeks, pairs of students discussed ten case studies involving educational problems for one hour each. The discussions were held in the classroom.
Group E-1	Human relations training by means of the HDI program was given this group. Pre and post testing on The Relationship Inventory was done three weeks apart. During these weeks, pairs of students worked through the ten sessions of the HDI program. The sessions were taken in the classroom.
Groups E-2 and E-3	Human relations training by means of the HDI program was given these groups. Pre and post testing on The Relationship Inventory was done five weeks apart. During these five weeks, pairs of students worked through ten sessions of the HDI program. The sessions were taken in the classroom.

Groups E-4 and E-5	These two groups experienced the same treatment as groups E-2 and E-3 excepting that the sessions were taken out of class, e.g., in a student lounge, cafeteria etc. during the time that the class would normally have met.
Groups E-6 and E-7	Human relations training by means of HDI programs was given these groups. Pre and post testing was done eight weeks apart. During these eight weeks, pairs of students worked through the ten sessions of the HDI program. The sessions were taken in the classroom.

In an attempt to minimize the Hawthorne effect, a completely laissez faire attitude toward the use of the HDI program was generated by each of the instructors in whose class the program was used. No attempt was made to "sell" the program (i.e., convince students that taking the program was a valuable experience for them) nor was the program or the experiences students were having in using the program discussed in class. When instructors were asked questions about the program or its relationship to teacher training, instructors replied with neutral, noncommittal statements.

Treatment of The Data

The Relationship Inventory was scored by converting scores for each item to a positive score of one through six. Each of the five sub-tests of the inventory was scored separately so that each subject received a separate score on the level of regard, empathy, congruence, unconditionality and willingness to be known scales. Growth in human relations skill was determined by computing pre to post test difference scores for each of the five sub-tests of The Relationship Inventory.

The Dogmatism Scale was scored by converting scores for each item to a positive score of one through six and summing item scores to obtain a total score.

By using a split-half technique, coefficients of reliability were computed on post test data for each of the five sub-tests of The Relationship Inventory. The reliability of the Dogmatism Scale was also computed by the same method. The reliability coefficient and standard error of measurement for each of the tests is reported in Table 1. The reliability coefficients were computed using a population of fifty students selected at random from the total population.

Statistical Analysis

Hypothesis number one was tested for each of the experimental groups by using a series of Willcoxon Rank Sign Tests to test change in human relations skill as measured by pre to post test change scores on each of the five sub-tests of The

within plus or minus one standard error of measurement

cases.

Hypothesis number two was tested by using a series of Mann-Whitney U Tests to compare change in human relations skill for groups using HDI programs and case study discussions for a comparable period of time. In this analysis groups E-6 and E-7 were combined into one group and a comparison was made with group C-3.

Hypothesis number three was tested by means of a series of 3x3 chi square analyses. In these analyses student change scores on The Relationship Inventory were classified as falling in the upper, middle and low third of the range for the population and in like manner student Dogmatism Scale scores were also classified as being in the upper, middle and lower third of the population. These upper, middle and lower third classifications for these two tests constituted variable 1 and variable 2 for the 3x3 chi square analyses. Hypothesis number three was tested by using combined data from groups E-1 through E-6 (i.e., those students who had used the HDI program during the experiment).

The range and mean of the change scores for subjects classified as being in the upper, middle and lower third on change as measured by each of the sub-tests of The Relationship Inventory are found in Table III. The range and mean scores for subjects classified as being in the upper, middle and lower third of the range on the Dogmatism Scale may be found in Table II.

Findings

Hypothesis #1 - Subjects experiencing programed human relations training will evidence growth in human relations skills.

Data presented in Table IV shows that students in five of the seven experimental groups showed significant change in ability to express positive level of regard and empathy. These groups were E-1, E-4, E-5, E-6 and E-7. Table IV also presents data to show that three of the seven experimental groups, E-5, E-6 and E-7, showed significant change in ability to express congruence, unconditionality and a willingness to be known.

This data may be summarized as follows: In thirty of the forty analyses, groups using H.D.I. programs made significant positive change in human relations skill. No significant positive change was found in groups E-2 and E-3 though group E-3 did show a significant loss in ability to express unconditionality of regard. It should be noted that in groups C-1 and C-2 in which no human relations training or dyadic discussion was used that no significant changes were found.

An inspection of the pattern of change indicates a strong trend toward the greatest gains being made in groups using the program in such a way as to space HDI sessions, generally, one week apart. In groups E-5 and E-6 the program was used once a week for six weeks and twice a week for two weeks; in groups E-2, E-3, E-4 and E-5 the program was used twice a week for five weeks; and in group E-1 the program was used three or four times a week for three weeks.

There is some considerable indication that improvement in human relations skill, as measured by The Relationship Inventory, was facilitated by use of the HDI General Relationship Improvement Program. This was particularly evident in those groups in which the program sessions were, typically, spaced one week apart.

Hypothesis #2 — Subjects experiencing programed human relations training will evidence growth in human relations skills which exceeds the growth evidenced by subjects who experience ten hours of dyadic discussions of educational case studies.

Data presented in Table V shows that the combined groups E-6 and E-7 (groups experiencing the HDI program sessions typically one week apart) made significantly greater gains in empathy and congruence than did group C-3, a group in which student dyads discussed educational case studies in place of using the HDI program. It should be noted that the spacing of sessions in group C-3 was the same as in groups E-6 and E-7, i.e., typically one week apart. Further inspection of Table V will reveal that though the HDI groups were significantly superior to the discussion group in only two of the five areas that in all five areas of human relations skill the HDI groups had higher mean scores. In light of this clear trend favoring the HDI groups and the significant differences in two of the five areas, there seems to be evidence to indicate that the growth in human relations skills of the HDI group was attributable to more than ten hours of dyadic contact. This difference may be assumed attributable to the HDI program.

Hypothesis #3 — Subjects with a relatively closed belief-disbelief system will evidence less growth in human relations skill than subjects with a relatively more open belief-disbelief system.

Table VI shows The Relationship Inventory change scores for subjects classified as falling in the upper, middle and lower third of the range on the Dogmatism Scale. Table VII shows the results of the five 3x3 chi square analyses designed to test hypothesis number three. Data presented in these two tables shows a clear trend indicating that subjects scoring in the upper third on the Dogmatism Scale showed

less growth in human relations skill than subjects in the middle and lower third of the range. This relationship between Dogmatism Scale scores and growth in human relations skill was found to be statistically significant, however, only in the area of empathy.

Table VIII shows that subjects in upper third of the range on the Dogmatism Scale were rated differently by high, medium and low dogmatic partners in the area of empathy. An inspection of cell loadings shows that this was a function of subjects in the upper third of the Dogmatism Scale being rated as showing less growth in empathic understanding when rated by low dogmatic partners than by partners who scored in the middle or upper third of the Dogmatism Scale.

Tables IX and X, on the other hand, show that medium and low scorers on the Dogmatism Scale were not seen as making significantly different gains, as a result of HDI instruction, when rated by high, medium and low dogmatic partners.

Subjects scoring in the upper third on the Dogmatism Scale show a clear and consistent trend toward making less gain in human relations skill as a result of HDI instruction. There is no indication, however, that low scorers on the Dogmatism Scale show greater gains in human relations skill than medium scorers. Indeed, there is some indication that subjects scoring in the middle third of the range of the Dogmatism Scale make greater gains in human relations skill than subjects in either the upper or lower third. The relationship between dogmatism and the learning of human relations skills seems not to be linear.

Discussion

As is often true with pilot studies in the area of institutional research, rigor of design is sacrificed in an attempt to begin, if only somewhere, Such was the case with this study. The reader should, therefore, see these findings for what they are - provocative findings from a pilot study with less than optimum controls.

The design limitations of this study not withstanding, the investigator is encouraged by the findings, and particularly by the consistent trends that have been reported. Certainly, there is considerable evidence that the HDI General Relationship Improvement Program can teach human relations skills to pre-service teachers and particularly so when instructional sessions are spaced one week apart. That the HDI program was not written with a pre-service teacher population specifically in mind makes the findings of this study even more encouraging.

In addition, there is evidence that not all pre-service teachers profit equally from this type of programed human relations training. Data has been presented that suggests that people with relatively closed belief-disbelief systems, i.e., high dogmatic subjects, are seen by their partners as making less gain in human relations skills than others and particularly so in the area of empathic understanding.

Encouraged by the findings of this preliminary study, a more rigorously designed study is currently under way at The Ohio State University to re-test the hypothesis proposed in the pilot study. In addition, the current study is designed to relate human relations skills to teaching effectiveness. Prudence would seem to dictate that any sweeping conclusions, intricate analyses of the inter-relationship of data or specific recommendations await the findings of the study currently under way.

TABLE I

COEFFICIENTS OF RELIABILITY AND STANDARD ERRORS OF MEASUREMENT OF THE DOGMATISM SCALE AND THE SUB-TESTS OF THE RELATIONSHIP INVENTORY

Relationship Inventory Sub-test	N	r_{tt}	S.E.
Level of Regard	50	.91	3.01
Empathy	50	.91	3.03
Congruence	50	.91	3.27
Unconditionality	50	.82	3.63
Willingness to be Known	50	.83	4.45
Dogmatism Scale	50	.86	6.81

TABLE II

RANGE AND MEANS OF DOGMATISM SCALE SCORES FOR SUBJECTS CLASSIFIED AS HIGH, MEDIUM AND LOW (N=52 IN EACH CLASSIFICATION)

Classification	Range	$\bar{X}$
High	135 to 170	146.87
Medium	121 to 134	128.04
Low	82 to 120	111.18

TABLE III

RANGE AND MEANS OF RELATIONSHIP INVENTORY CHANGE SCORES FOR SUBJECTS CLASSIFIED AS MAKING HIGH, MEDIUM AND LOW CHANGE (N=52 IN EACH CLASSIFICATION)

Relationship Inventory Sub-test	Classification	Range	$\bar{X}$
Level of Regard	high	13 to 37	17.13
	medium	4 to 12	6.60
	low	-23 to 3	- 4.96
Empathy	high	12 to 37	14.90
	medium	3 to 11	4.82
	low	-25 to 2	- 5.30
Congruence	high	10 to 36	14.56
	medium	1 to 9	3.24
	low	-37 to 0	- 7.54
Unconditionality	high	8 to 42	10.54
	medium	0 to 7	1.85
	low	-39 to -1	- 9.32
Willingness to be Known	high	12 to 32	14.96
	medium	- 2 to 11	4.43
	low	-34 to -3	- 7.45

TABLE IV

PRE TO POST TEST CHANGE ON THE SUB-TESTS OF THE RELATIONSHIP INVENTORY FOR EXPERIMENTAL AND CONTROL GROUPS

Group	N	Level of Regard			Empathy			Congruence			Unconditionality			Willingness to be Known		
		$N_{(1)}$*	T	p	$N_{(1)}$	T	p	$N_{(1)}$	T	p	$N_{(1)}$	T	p	$N_{(1)}$	T	p
C_1	20	14	43.0	n.s.	11	33.5	n.s.	11	15.5	n.s.	12	34.0	n.s.	14	31.0	n.s.
C_2	26	15	49.5	n.s.	19	91.0	n.s.	15	75.0	n.s.	18	81.0	n.s.	13	54.5	n.s.
C_3	26	20	21.0	.01	20	28.0	.01	18	22.5	.01	17	46.5	n.s.	19	24.0	.01
E_1	20	15	30.5	.10	15	30.5	.10	13	61.0	n.s.	12	45.0	n.s.	18	54.0	n.s.
E_2	20	17	76.0	n.s.	14	52.0	n.s.	13	46.5	n.s.	16	21.0	.01+	15	49.0	n.s.
E_3	20	16	44.0	n.s.	13	29.5	n.s.	15	56.5	n.s.	17	34.5	n.s.	13	31.5	n.s.
E_4	24	16	25.5	.05	19	37.0	.02	16	74.0	n.s.	13	34.0	n.s.	13	34.5	n.s.
E_5	26	20	4.0	.01	23	43.0	.01	14	19.5	.05	17	32.0	.05	17	36.5	.10
E_6	26	19	11.0	.01	20	4.0	.01	17	37.5	.10	19	39.5	.05	21	50.0	.05
E_7	22	20	14.0	.01	17	6.0	.01	18	9.0	.01	17	37.0	.10	15	7.0	.01

* $N_{(1)}$ = Number of Non Zero cases. Non zero case defined as change beyond one standard error of measurement.

+ Significant Loss

TABLE V

COMPARISON OF WEEKLY HDI GROUPS AND THE WEEKLY PROBLEM DISCUSSION GROUP ON EACH OF THE SUB-TESTS OF THE RELATIONSHIP INVENTORY

Relationship Inventory Sub-test	HDI	Discussion			
	$\bar{X}$	$\bar{X}$	U	$\bar{Z}$	p
Level of Regard	10.23	7.31	1613	.60	n.s.
Empathy	9.21	4.92	1750	2.15	.05
Congruence	7.64	4.77	1704	1.05	.10
Unconditionality	6.48	2.42	1661	1.15	n.s.
Willingness to be Known	7.50	6.19	1618	.66	n.s.

TABLE VI

MEANS OF RELATIONSHIP INVENTORY SUB-TEST CHANGE SCORES FOR SUBJECTS WHO SCORED IN THE UPPER, MIDDLE AND LOWER THIRD ON THE DOGMATISM SCALE

Relationship Inventory Sub-test	Dogmatism Scale		
	Upper Third (N=52)	Middle Third (N=52)	Lower Third (N=52)
	$\bar{X}$	$\bar{X}$	$\bar{X}$
Level of Regard	4.57	7.31	7.09
Empathy	2.41	6.52	5.35
Congruence	1.70	4.33	3.45
Unconditionality	.30	3.39	2.78
Willingness to be Known	2.11	6.26	4.09

TABLE VII

ANALYSIS OF SUBJECTS WHO SCORED IN THE UPPER, MIDDLE AND LOWER THIRD ON THE DOGMATISM SCALE ON HIGH, MEDIUM AND LOW CHANGE ON THE FIVE SUB-TESTS OF THE RELATIONSHIP INVENTORY

Relationship Inventory Sub-test	N	χ^2	p
Level of Regard	156	3.80	n.s.
Empathy	156	16.42	.01
Congruence	156	5.29	n.s.
Unconditionality	156	5.06	n.s.
Willingness to be Known	156	4.30	n.s.

TABLE VIII

ANALYSIS OF RELATIONSHIP INVENTORY SUB-TEST CHANGE SCORES FOR SUBJECTS IN THE UPPER THIRD ON THE DOGMATISM SCALE AS RATED BY PARTNERS IN THE UPPER, MIDDLE AND LOWER THIRD ON THE DOGMATISM SCALE

Relationship Inventory Sub-test	N	χ^2	p
Level of Regard	52	5.90	n.s.
Empathy	52	11.78	.02
Congruence	52	2.14	n.s.
Unconditionality	52	3.85	n.s.
Willingness to be Known	52	9.02	n.s.

TABLE IX

ANALYSIS OF RELATIONSHIP INVENTORY SUB-TEST CHANGE SCORES FOR SUBJECTS IN THE MIDDLE THIRD ON THE DOGMATISM SCALE AS RATED BY PARTNERS IN THE UPPER, MICCLE AND LOWER THIRD ON THE DOGMATISM SCALE

Relationship Inventory Sub-test	N	χ^2	p
Level of Regard	52	1.78	n.s.
Empathy	52	2.50	n.s.
Congruence	52	.88	n.s.
Unconditionality	52	4.10	n.s.
Willingness to be Known	52	8.31	n.s.

TABLE X

ANALYSIS OF RELATIONSHIP INVENTORY SUB-TEST CHANGE SCORES FOR SUBJECTS IN THE LOWER THIRD OF THE DOGMATISM SCALE AS RATED BY PARTNERS IN THE UPPER, MIDDLE AND LOWER THIRD ON THE DOGMATISM SCALE

Relationship Inventory Sub-test	N	χ^2	p
Level of Regard	52	3.38	n.s.
Empathy	52	5.98	n.s.
Congruence	52	1.94	n.s.
Unconditionality	52	3.00	n.s.
Willingness to be Known	52	2.22	n.s.

FOOTNOTES

1. Rogers, Carl R. "Significant Learning: In Therapy and Education," Educational Leadership. (January, 1959) 232-42.

2. Ibid.

3. Bills, R.E. "Insights for Teaching from Personality Theory: Intelligence and Teaching." In Berman, Louise (ed.) The Nature of Teaching: Implications for the Education of Teachers. Milwaukee: School of Education, University of Wisconsin - Milwaukee, 1963. pp.49-64.

4. Emmerling, F.A. "A Study of The Relationship Between Personality Characteristics of Classroom Teachers and Pupil Perceptions of These Teachers," Unpublished doctoral dissertation, Auburn University, 1961.

5. Barrett-Lennard, G.T. "Dimensions of Perceived Therapist Response Related to Therapeutic Change," Unpublished Doctoral Dissertation, University of Chicago, 1959.

6. Rokeach, Milton The Open and Closed Mind. New York: Basic Books, Inc., 1960

7. Thirty Four subjects (seventeen pairs) were eliminated from the study because complete data was not available for both members of the pair.